

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method for identifying a compound that modulates aging, the method comprising the steps of :

(i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide or a cell that expresses the lbp-7 polypeptide, wherein the lbp-7 polypeptide is encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid listed in Tables 1 or 3-7 the complement of the T22G5.2 nucleic acid of Tables 3 and 6, or a nucleic acid encoding a polypeptide listed in Tables 1 or 3-7 or mammalian homologs and orthologs thereof wherein stringent conditions are incubation in 5X SSC, 1% SDS at 65°C followed by washing in 0.2X SSC, and 0.01% SDS at 65°C; and

(ii) determining the functional effect of the compound upon the lbp-7 polypeptide or the cell that expresses the lbp-7 polypeptide and comparing it to a control sample without the compound, wherein a difference from the control indicates that the compound modulates aging.

2. (Currently amended) The method of claim 1, wherein the ~~homolog or ortholog~~ is a human homolog or ortholog nucleic acid encodes the lbp-7 polypeptide of Table 3 and 6.

3. (Currently amended) The method of ~~claim 2~~ claim 1, wherein the ~~human homolog or ortholog is a human cellular stress response gene, a human antimicrobial gene, a human metabolic gene, a human steroid or lipid soluble hormone synthesis gene, or a human fatty acid desaturation gene~~ lbp-7 polypeptide binds fatty acids.

4. (Canceled)

5. (Currently amended) The method of claim 1, wherein the lbp-7 polypeptide is encoded by a nucleic acid that ~~hybridizes under stringent conditions to a nucleic acid listed in Tables 5-6, or a nucleic acid encoding a polypeptide listed in Tables 5-6, or mammalian homologs or orthologs thereof~~ is expressed in *C. elegans* and is upregulated when daf-16 activity is inhibited and is downregulated when daf-2 activity is inhibited.

6. (Currently amended) The method of claim 1, wherein the ~~functional~~ effect is determined in vitro.

7. (Canceled)

8. (Currently amended) The method of claim 6, wherein the ~~functional~~ effect is determined by measuring ~~ligand, substrate, or cofactor~~ fatty acid binding to the polypeptide.

9. (Canceled)

10. (Currently amended) The method of claim 1, wherein the cell that expresses the lbp-7 polypeptide ~~is expressed in a eukaryotic host or host cell and the polypeptide is contacted with the compound in a living cell.~~

11. (Currently amended) The method of claim 10, wherein the host cell is ~~derived from *C. elegans*~~ a *C. elegans* cell, a mouse cell, a rat cell, or a human cell.

12. (Currently amended) The method of claim 10, wherein the cell that expresses the lbp-7 polypeptide is a host ~~is *C. elegans*, mouse, rat, or human.~~

13. (Currently amended) The method of claim 10, wherein the ~~functional~~ effect is determined by measuring ~~ligand, substrate, or cofactor~~ fatty acid binding to the lbp-7 polypeptide.

14. (Currently amended) The method of claim 10, wherein the ~~functional~~ effect is determined by measuring ~~transcriptional activation~~ transcription of the nucleic acid.

15. (Currently amended) The method of claim 10, wherein the ~~functional~~ effect is determined by evaluating an age-associated ~~parameters~~ parameter.
16. (Currently amended) The method of claim 10, wherein the ~~functional~~ effect is determined by evaluating expression of an age-associated gene.
17. (Original) The method of claim 15, wherein the age-associated parameter is lifespan.
18. (Original) The method of claim 1, wherein the modulation is inhibition of aging.
19. (Currently amended) The method of claim 1, wherein the compound is an antibody, an antisense molecule, an RNAi molecule, or a small molecule.
20. (Currently amended) The method of claim 18, wherein inhibition of aging occurs by inhibition of a expression or activity of the lbp-7 polypeptide encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid encoding a polypeptide comprising an amino acid sequence selected from the group consisting of the genes listed in Tables 1 or 3-7 or human homologs and orthologs thereof.
21. (Currently amended) A method for evaluating a compound for modulation of aging, the method comprising the steps of:
- (i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide, wherein the polypeptide is encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid listed in Tables 1 or 3-7 the complement of the T22G5.2 nucleic acid of Tables 3 and 6, or a nucleic acid encoding a polypeptide listed in Tables 1 or 3-7 or mammalian homologs and orthologs thereof wherein stringent conditions are incubation in 5X SSC, 1% SDS at 65°C followed by washing in 0.2X SSC, and 0.01% SDS at 65°C;
  - (ii) determining the ~~functional~~ effect of the compound upon the lbp-7 polypeptide;
- and

(iii) contacting a host or host cell expressing the ~~protein~~ lbp-7 polypeptide with the compound and evaluating an age-associated parameter of the host or host cell and comparing it to a control without the compound, wherein a difference from the control indicates that the compound modulates aging, thereby evaluating a the compound for modulation of aging.

22. (Currently amended) The method of claim 21, wherein the ~~homolog or ortholog~~ is a human homolog or ortholog nucleic acid encodes the lbp-7 polypeptide of Table 3 and 6.

23. (Currently amended) The method of claim 22, wherein the ~~human homolog or ortholog is a human cellular stress response gene, a human antimicrobial gene, a human metabolic gene, a human steroid or lipid-soluble hormone synthesis gene, or a human fatty acid desaturation gene~~ lbp-7 polypeptide binds fatty acids.

24. (Canceled)

25. (Currently amended) The method of claim 21, wherein the polypeptide is encoded by a nucleic acid that ~~hybridizes under stringent conditions to a nucleic acid listed in Tables 5-6, or a nucleic acid encoding a polypeptide listed in Tables 5-6, or mammalian homologs or orthologs thereof~~ is expressed in *C. elegans* and is upregulated when daf-16 activity is inhibited and is downregulated when daf-2 activity is inhibited.

26. (Currently amended) The method of claim 21, wherein the lbp-7 polypeptide is recombinant.

27. (Currently amended) The method of claim 21, wherein the compound is an antibody, an antisense molecule, an RNAi molecule, or a small molecule.

28-30. (Canceled)

31. (Currently amended) The method of claim 21, wherein the ~~functional~~ effect is determined in vitro.

32. (Currently amended) The method of claim 21, wherein the ~~functional~~ effect is determined in a eukaryotic host organism or host cell.

33. (Currently amended) The method of claim 21, wherein the age-associated parameter is lifespan, ~~wherein the age-associated parameter is stress resistance.~~

34-45. (Canceled)

46. (Currently amended) A method of identifying a compound that modulates aging, the method comprising the steps of :

(i) contacting a test compound to a living or biochemical system that ~~comprising~~ comprises a *C. elegans* target protein selected from the group consisting of: a lipid binding protein-7 (lbp-7) protein, wherein the lbp-7 protein has 95% identity to the lbp-7 protein in Tables 1 or 3-7 3 and 6; and

(ii) ~~evaluating a property associated with~~ expression or activity of the target lbp-7 protein and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates lbp-7 protein expression or activity; and

(iii) evaluating an aging-associated parameter of a *C. elegans* organism contacted with the test compound and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates aging.

47-49. (Canceled)

50. (Currently amended) ~~A method of evaluating a plurality of compounds; the method comprising the steps of: providing a plurality of compounds; for each compound of the plurality, evaluating a functional effect of the respective compound on a polypeptide that is encoded by a nucleic acid that hybridizes under stringent conditions to a nucleic acid listed in Tables 1 or 3-7, or a nucleic acid encoding a polypeptide listed in Tables 1 or 3-7 or mammalian homologs and orthologs thereof; and if the compound has a functional effect as determined by a criterion, contacting the compound to a cell or organism, and evaluating an age-related parameter~~

~~of the cell or organism~~ The method of claim 1, 21, or 46, wherein a plurality of compounds is assayed.

51-52. (Canceled)

53. (Original) The method of claim 50, wherein the plurality of compounds comprises a library of structurally related chemical compounds.

54-59. (Canceled)

60. (New) A method for identifying a compound that modulates aging, the method comprising the steps of :

- (i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide, wherein the lbp-7 polypeptide has 95% identity to the lbp-7 polypeptide of Tables 3 and 6, and
- (ii) determining the effect of the compound upon the lbp-7 polypeptide, and comparing it to a control sample without the compound, wherein a difference from the control indicates that the compound modulates aging.

61. (New) A method for evaluating a compound for modulation of aging, the method comprising the steps of :

- (i) contacting the compound with a lipid binding protein-7 (lbp-7) polypeptide, wherein the lbp-7 polypeptide has 95% identity to the lbp-7 polypeptide of Tables 3 and 6;
- (ii) determining the effect of the compound upon the lbp-7 polypeptide; and
- (iii) contacting a host or host cell expressing the lbp-7 polypeptide with the compound and evaluating an age-associated parameter of the host or host cell and comparing it to a control without the compound, wherein a difference from the control indicates that the compound modulates aging, thereby evaluating the compound for modulation of aging.

62. (New) A method of identifying a compound that modulates aging, the method comprising the steps of:

(i) contacting a test compound to a living or biochemical system that comprises a *C. elegans* lipid binding protein-7 (lbp-7) protein, wherein the polypeptide is encoded by a nucleic acid that hybridizes under stringent conditions to the complement of the T22G5.2 nucleic acid of Tables 3 and 6, wherein stringent conditions are incubation in 5X SSC, 1% SDS at 65°C followed by washing in 0.2X SSC, and 0.01% SDS at 65°C; and

(ii) evaluating expression or activity of the lbp-7 protein and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates lbp-7 protein expression or activity; and

(iii) evaluating an aging-associated parameter of a *C. elegans* organism contacted with the test compound and comparing it to a control sample, wherein a difference from the control indicates that the compound modulates aging.